

NVDA/P000502

REMARKS

This amendment is submitted in response to the Office Action dated February 28, 2006. Reconsideration and allowance of the claims is requested. In this Office Action, the drawings were objected to as being inconsistent with the recitations in the specification. Therefore, figure 4B has been corrected to eliminate this issue. In the Office Action, claims 1-8, 12, 15, 16 and 20-25 are rejected under 35 U.S.C. 102(b) as anticipated by Huang (US 6,825,839). Claims 9-11 and 18 are rejected under 35 U.S.C. 103 as unpatentable over Huang considered with Lee (US 6,262,737). These rejections are traversed.

Claims 13, 14, 17 and 19 are objected to as dependent on rejected claims but indicated to be otherwise allowable. By this response, claim 1 is amended to clarify the scope of the invention, and is believed to now be allowable along with its dependent claims. Claim 15 is amended to incorporate claims 16 and 17 and should now be allowable since claim 17 was previously indicated as allowable. Claims 7 and 8 are cancelled so that the applicant can submit four new claims 26-29 to provide a full scope of coverage for the invention without paying additional fees. These include a new claim 26 dependent on claim 1, and a new independent claim 27 together with its dependent claims 28 and 29.

The present invention is directed to a simple scheme to describe the connectivity and vertices which are used to define a collection of connected primitives, and is especially useful where the primitives to be processed share a fixed number of vertices with neighboring primitives. The scheme disclosed and claimed simplifies the storage of the vertices which define the neighboring primitives, and enables the orderly storage and access of topologies, such as triangles and quadrilaterals, which share edges and vertices.

Consistent with this, the applicant has defined a method for storing the information needed to process neighboring primitives. The method includes the steps of selecting a reference vertex identifying neighbor vertices, assigning references in a sequential order to the neighboring vertices and storing the primitives by storing the vertices of the primitives using the unique indexes selected. According to further dependent claims or the new independent claim, the unique neighbor index preferably

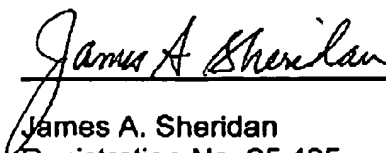
NVDA/P000502

includes an offset which is unique to each of the neighboring primitives and which enables a consistent order of calculation during primitive processing of neighboring primitives.

None of the above features, especially the approach to storing neighboring primitives by the vertices which define the primitives and adopting an offset which is unique to each of the primitives to establish an order of calculation, is found in the Huang reference relied on by the Examiner. Rather, Huang, uses identified vertices, as explained at column 2, lines 60-65, for a process called skeletonization, which is the process of deriving a skeleton of an input model where the skeleton is a fully collapsed body of the model. In particular, Huang does not store neighboring primitives by their vertices and define one-ring neighbor vertices, as claimed. Rather, in Huang, a sequence of vertices is stored that is independent of the order of one-ring neighbors (figure 6A). Each pair of vertices is then used to contract an edge of a primitive, so that following the steps B-E of figure 6, each of the edges is contracted to form a fully collapsed skeleton. The Huang reference fails to teach the storage of neighboring primitives by their vertices, and then using that stored data to process the neighboring primitives. Rather than processing of primitives, Huang teaches only the processing of edges and the collapsing of those edges. The Lee citation does not overcome these deficiencies.

In view of these clear distinctions between the claims as presented and the Huang and Lee references, reconsideration and allowance of the claims is requested.

Respectfully submitted,



James A. Sheridan
Registration No. 25,435
PATTERSON & SHERIDAN, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, Texas 77056-6582
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Applicant